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**Agile learning strategies for sustainable careers:
A review and integrated model of feedback-seeking behavior and reflection**

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Abstract

Learning agility has been identified as one of the most important 21st century skills for sustainable careers. In recent years, research findings on reflection and feedback-seeking behavior, two closely related behavioral strategies driving learning agility have quickly accumulated. We summarize our current knowledge on these two agile learning strategies, identify ways how organizations can support them and explain how they work as two sides of the same coin. Our review shows that both reflection and feedback-seeking behavior are instrumental in enhancing learning, performance, adaptability, and well-being. However, to fully benefit from their potential, we need to better understand how these two strategies work in concert. To this end, we provide a model that may help integrate reflection and feedback-seeking behavior research in the future.

**Agile Learning Strategies for Sustainable Careers:
A Review and Integrated Model of Feedback-Seeking Behavior and Reflection**

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Abstract

Learning agility has been identified as one of the most important 21st century skills for sustainable careers. In recent years, research findings on reflection and feedback-seeking behavior, two closely related behavioral strategies driving learning agility have quickly accumulated. We summarize our current knowledge on these two agile learning strategies, identify ways how organizations can support them and explain how they work as two sides of the same coin. Our review shows that both reflection and feedback-seeking behavior are instrumental in enhancing learning, performance, adaptability, and well-being. However, to fully benefit from their potential, we need to better understand how these two strategies work in concert. To this end, we provide a model that may help integrate reflection and feedback-seeking behavior research in the future.

Quickly adapting to changing environments, flexibly navigating job transitions and eagerly mastering new technologies is becoming increasingly important in today's career environment (Hogan, Chamorro-Premuzic, & Kaiser, 2013). Given the increased self-directedness of contemporary careers, taking charge of one's own learning is pivotal for employees for sustained employability in terms of satisfying, healthy and long careers in a volatile labor market (De Fruyt, Wille, & John, 2015). As a result, learning agility, “the ability to come up to speed quickly in one’s understanding of a situation and move across ideas flexibly in service of learning both within and across experiences” (DeRue, Ashford, & Myers, 2012, p. 262) has been identified as one of the most important 21st skills for sustainable careers.

A critical conceptual analysis of learning agility (Derue et al., 2012) shows how the construct fits into a broader framework of constructs related to learning from experience, with specific focus on the cognitive and behavioral processes through which learning agility operates. Building on this framework, we review research findings on two key behavioral strategies driving learning agility that have accumulated quickly in the last decades. While we acknowledge the diversity of behaviors encompassing learning agility, we have gathered a good evidence base on how employees can strategically use reflection and feedback-seeking behavior to manage their learning, effectiveness, adaptativeness, and well-being. Hence, the aim of the current paper is to summarize our current knowledge on these two learning strategies, identify ways how organizations can support them and explain how they work as two sides of the same coin. To this end, we provide a model that may help integrate reflection and feedback-seeking behavior in future research.

Feedback-seeking behavior

Employees are not passively waiting for supervisors to give them feedback but are proactively navigating their work environment, seeking out feedback information wherever

they can get it and whenever they need it. This line of research depicts feedback seeking as a valuable resource for individuals because it may facilitate their adaptation to new environments, help them monitor goal progress, and potentially improve performance (Ashford, Blatt, & VandeWalle, 2003). Feedback seeking behavior (FSB) has attracted a lot of attention over the past three decades due to its presumed role as a driver of learning and task performance (e.g., Ashford & Cummings, 1983; Renn & Fedor, 2001).

Defining and Conceptualizing Feedback-Seeking Behavior

Defined as a “conscious devotion of effort toward determining the correctness and adequacy of behaviors for attaining valued end states” (Ashford, 1986, p. 466), feedback-seeking behavior is instrumental proactive behavior for work adjustment, particularly in contexts where uncertainty and ambiguity prevail (Ashford & Tsui, 1991; Morrison, 1993a). Following the tenets of uncertainty reduction theory (Miller & Jablin, 1991), FSB helps to get information useful for navigating in uncertain environments, reducing the anxiety uncertainty may cause, and self-regulating one’s behavior. Studies addressed different aspects of feedback seeking: (a) the method used to seek feedback, (b) the frequency of feedback-seeking behavior, (c) the timing of feedback seeking, (d) the characteristics of the target of feedback seeking, and (e) the performance dimension on which feedback is sought. Although each of these aspects received some attention, most of the literature aimed to understand the antecedents and consequences of the frequency with which employees use two methods of feedback seeking (Ashford, De Stobbeleir, & Nujella, 2016): inquiry and monitoring. Individuals seek feedback through inquiry when they directly ask others (e.g., their supervisor or co-workers) for feedback. Conversely, feedback monitoring implies scanning the work environment and other people’s behavior in order to glean for information that can be used for privately evaluating one’s own performance without directly asking anyone.

Deciding on the method to seek feedback results from an internal cost-value analysis (Ashford & Cummings, 1983). For instance, although inquiry is a useful method to learn how others evaluate one's performance, individuals often report concerns relating to the risks associated with direct feedback seeking (Levy et al., 1999). Employees may not want to burden their supervisor or appear insecure to others by seeking feedback. When seeking feedback in public, negative feedback can come at the risk of losing face (Ashford & Northcraft, 1992). This makes feedback monitoring the safer option, although the feedback obtained accordingly may be less informative and difficult to interpret. Conversely, employees may also use feedback-seeking behavior as a deliberate impression-management strategy to convey a favorable image to their supervisor or colleagues. In fact, employees might strategically decide to seek feedback on successes or on certain aspects of their performance when they are aware that positive feedback will follow (e.g., after a successful presentation). Thus, by openly seeking positive feedback and avoiding negative feedback, employees may find that strategically managing their feedback-seeking behavior can help them protect their self-esteem while at the same time presenting a favorable image to others (Moss, Valenzi, & Taggart, 2003).

The question about the underlying motives that drive or refrain individuals to seek feedback has proven a particularly fruitful domain of study. Although various motives have been proposed to underlie FSB (e.g., Anseel et al., 2007; Ashford et al., 2003), generally three main motives have been distinguished (e.g., Ashford, 1986; Ashford & Cummings, 1983; Ashford et al., 2003; Park et al., 2007). First, an instrumental motive is assumed to drive FSB when individuals find value in obtaining information that helps them reduce uncertainty, improve performance, attain their goals, and regulate their behaviors. Second, an image-based motive (or self-presentation motive) would be elicited when the feedback is perceived to potentially convey a negative evaluation of one's competencies, thereby

revealing negative aspects about oneself towards others, or when positive feedback is sought for enhancing one's image towards others. Third, an ego-based motive is activated when the feedback is perceived to be costly to, or threaten, one's ego and self-esteem.

The conclusion of this overview is that it might be naive to expect that people seek feedback solely driven by the desire to obtain accurate diagnostic information for improving their performance. Feedback-seeking behavior results from a complex cost-benefit analysis wherein different motives compete for attention (Anseel & Lievens, 2007; Anseel et al., 2007). This means on the one hand that feedback obtained from feedback-seeking efforts may not always be the best depiction of one's performance level. On the other hand, it remains unclear to what extent feedback-seekers will deeply process the resulting feedback and use it for regulating learning and performance.

Outcomes of Feedback-Seeking Behavior

Three categories of outcomes have been examined: (a) learning and performance, (b) adaptation and socialization, (c) wellbeing. First, several studies have documented positive effects of feedback-seeking behaviour on job performance (Lam, Peng, Wong, & Lau, in press). For instance, Renn and Fedor (2001) found that sales employees who sought feedback more frequently realized higher sales' revenues (i.e., average sales per hour) and obtained higher ratings for the quality of their work (i.e., service quality). Through feedback seeking, individuals can also develop creativity-relevant skills and gain fresh perspectives on their idea. For instance, De Stobbeleir, Ashford, and Buyens (2011) found that employees who sought more direct feedback and who sought feedback from a variety of targets showed higher creativity at work.

Second, feedback-seeking behaviour has been regarded as one of the most important proactive behaviors that can be used by newcomers to get information for reducing uncertainty and navigating more efficiently through the socialization period (Ashforth, Sluss,

& Saks, 2007; Bauer, Morrison, & Callister, 1998; Cooper-Thomas, Paterson, Stadler, & Saks, 2014; Saks & Ashforth, 1997; Saks, Gruman, & Cooper-Thomas, 2011). Studies have shown that newcomers integrate better in their new social environment by seeking feedback (Ashford & Black, 1996; Morrison, 1993a). Also, individuals who seek feedback in their first months in a new organization tend to have a more accurate view of their role in the organization (Ashford et al., 2003; Morrison, 2002).

Third, feedback-seeking behaviour has been linked to higher job satisfaction, lower intentions to leave the organization and lower actual turnover (Anseel et al., 2015). By seeking feedback, individuals also build better connections with both leaders and colleagues (Ashford et al., 2016). In sum, feedback-seeking behaviour has important consequences for individuals' adaptation, wellbeing, and performance, making it an important strategy driving learning agility.

Implications for Organizations and Future Research

Given the potential benefits of seeking feedback, organizations may want to encourage individuals with low performance expectations to seek feedback (Crommelinck & Anseel, 2013). As being new to organizations involves high levels of uncertainty, organizations should be most encouraging for feedback seeking during newcomers' socialization period by means of special orientation programs, social events and mentoring. Organizations need to provide sufficient feedback to individuals that have extensive job experience, even when they do not seek feedback themselves. Organizations can support FSB by using information technology and communication media, for example by registering, tracking, and displaying performance statistics. Providing alternative sources for privately seeking feedback (e.g., helpdesk, intranet) is a promising avenue so that the cost of seeking feedback publicly can be diminished.

While the literature review clarifies the value of FSB for learning and performance, it also points to two potential pitfalls that may be a concern to organizations. First, employees may have various reasons to seek feedback. Although textbooks urge organizations to design work environments that encourage employees to seek feedback, a substantial part of these feedback-seeking attempts might be in vain, because they are not oriented towards performance improvement but rather serve ego-protection and impression management purposes. Second, Anseel and colleagues (2015) did not find a meaningful meta-analytic correlation between feedback-seeking behavior and task performance, calling for more process research disentangling the different feedback-seeking strategies, and the resulting feedback dynamics. To date, FSB research has remained surprisingly silent about the cognitive processing of the feedback seeker when receiving feedback. Previous studies seem to have treated the feedback seeker as a black box and implicitly assumed that feedback should automatically lead to performance increments. It is at this point that reflection needs to be brought into the picture. Feedback research shows that feedback needs to be perceived accurately and to be cognitively accepted for performance to be affected (e.g., Kinicki et al., 2004). The effectiveness of feedback depends on the depth of processing by the feedback recipient (e.g., Anseel, Lievens, & Schollaert, 2009). Deeper cognitive processing may be related to a better organization of feedback information and integration in long-term memory, making it easier to apply feedback in subsequent tasks. In contrast, feedback that is seen as inaccurate or is superficially processed by the feedback seeker might have no lasting effects and might thus explain why feedback seeking sometimes does not result in performance improvement. To better understand why and how reflection is crucial to channeling FSB towards performance improvement, and thus should be integral to the feedback-seeking process, we next summarize empirical research on reflection.

Reflection

The idea that reflection is a powerful learning device has a long tradition in educational and organizational research (Dewey, 1933). Actively analyzing personal actions and their outcomes has proven to be a key source of development and performance improvement for individuals, teams, and organizations across a variety of professions and industries, including hospitals (Vashdi, Bamberger, & Erez, 2013), the fire ground (Allen, Baran, & Scott, 2010), the military (Ellis & Davidi, 2005), management education (DeRue, Nahrgang, Hollenbeck, & Workman, 2012), and air force (Ron, Lipshitz, & Popper, 2006). These findings have led to the conclusion that reflecting on one's own experiences is an important precondition to learn from experience, improve performance at work and well-being (Ellis et al., 2012).

Defining and Conceptualizing Reflection

Reflection is a cognitive process through which individuals attempt to increase their awareness of personal experiences and therefore their ability to learn from them (Gordon & Smith Hullfish, 1961). By asking questions such as “What did I do prior to, during, and after this experience?”, “How effective was I in this experience?”, and “Why did I do A or decide B?”, individuals make tacit, implicit knowledge explicit and analyze what they can learn from it (Schön, 1983; Yanow & Tsoukas, 2009).

From a cognitive standpoint, reflection involves the absorption and evaluation of new concepts into personal knowledge structures, relating these concepts to the person's other forms of knowledge and experience (Anseel, Lievens, & Schollaert, 2009). Knowledge structures are based on the premise that people organize information into mental models that reflect the relationships that exist between concepts and the features that define them (Johnson-Laird, 1983). More elaborate mental models lead to a better understanding of the

concepts involved and an increased efficacy to apply the mental model to solve concept-related problems in the real world (Marshall, 1995).

Reflection is posited to lead to more elaborate and fit mental models. That is, an effortful, deliberate thinking mode allows for better organization, evaluation and integration of information in existing mental models (Evans, 2008; Smith & DeCoster, 2000). For instance, in one of the most powerful demonstrations of the effects of reflection, Ellis and Davidi (2005) showed how the performance of soldiers doing successive navigation exercises improved significantly when they reflected on their failures and successes after each training day, compared with others who reflected on their failed events only. Importantly, an analysis of the causal cognitive maps demonstrated that through reflecting on both failures and successes, learners' schemas of events became richer in constructs and had more connections than when reflecting on failures only. Soldiers made increasingly more diverse attributions (e.g., personal learning, performance, ground conditions, weather conditions, ground map fit, pace, use of navigation systems) and elaborated on how these attributions were interrelated, resulting in a root cause analysis of their failed or successful performance. The development of these elaborate mental models through reflection enabled the soldiers to access and apply the knowledge at a later point in time, improving their performance in subsequent navigations.

Outcomes of Reflection

To date, most studies have focused on cognitive outcomes (e.g., learning) and behavioral outcomes (e.g., performance, interpersonal behavior). From a behavioral perspective, reflecting on past experiences has been shown to improve subsequent task performance (e.g., Anseel et al., 2009; Ellis & Davidi, 2005; Ellis et al., 2006; Kray, Galinsky, & Markman, 2009; Vashdi, Bamberger, Erez, & Weiss-Meilik, 2007; Wong, Haselhuhn, & Kray, 2012) and to cause changes in interpersonal behavior (e.g., DeRue et al.,

2012; Grant & Dutton, 2012; Van Ginkel & Van Knippenberg, 2009; Villado & Arthur, 2013). Two main routes have been identified for these performance effects. One the one hand, a motivational route has been shown to increase self-efficacy. By analyzing their successful experiences, learners become more aware of their share in the successes, which further increases their self-efficacy and motivation to put in even more effort and set higher goals (Ellis, Ganzach, Castle, & Sekely, 2010). The second route is more cognitive in nature. Reflection has been shown to produce richer cognitive structures (Ellis & Davidi, 2005; Matthew & Sternberg, 2009) and increase the relative number of internal versus external and specific versus general perceived causes of behavior (Allen, Jones, & Sheffield, 2010; Ellis et al., 2006). Similarly, controlled lab studies demonstrate that the depth-of-processing during reflection is predictive of the strength of task improvement. At the team level, reflection has been found to enhance similarity of team members' task representations (Van Ginkel & Van Knippenberg, 2009). Shared task representations in turn were found to increase psychological safety, which enhances group processes (Edmondson, 1999). Applying individual reflection to brainstorming has also shown to lead to increased creative performance at the group level (Stam, De Vet, Barkema, & de Dreu, 2013).

While research on the effects of reflection has mostly focused on performance, a growing number of studies suggest that reflection may also be effective in enhancing wellbeing. In a three-week longitudinal field study with an experimental intervention, Bono, Glomb, Shen, Kim, & Koch (2013) found that a brief, end-of-workday positive reflection led to decreased stress and improved health (e.g., blood pressure, physical complaints) in the evening. Fritz and Sonnentag (2005) showed that positive work reflection during the weekend predicted lower exhaustion and disengagement the following week. Similarly, findings from three diary studies showed that positive work reflection during leisure time was related to an increase in affective well-being with regard to both positive and negative moods

(Meier, Cho, & Dumani, 2016). In a study about vacations experiences, positive work reflection during vacations resulted in short-term benefit on disengagement, but had no effect on health complaints and exhaustion (Fritz & Sonnentag, 2006). In a longitudinal study with a time lag of three months, Daniel and Sonnentag (2014) found prospective effects of positive work reflection on work–family enrichment.

Implications for Organizations and Future Research

Instigating reflection in employees has often been organized in the form of formal, structured interventions, which are also known as after-event reviews, after-action reviews, or debriefs. Meta-analytic research shows that these interventions have positive effects on individual and team performance (Tannenbaum & Cerasoli, 2013). This means that for organizations, reflection protocols are readily available and reported in the literature (e.g., DeRue, Nahrgang, Hollenbeck, & Workman, 2012). However, a weakness of this literature is that virtually all studies adopted general interventions including multiple instructions. While one might assume that using a broad-scope intervention might yield stronger effects in practice, such an approach provides little conceptual insight into the factors contributing to the effectiveness of reflection. It might be that some aspects of the reflection intervention are more effective than others, or when combined, specific factors may strengthen or weaken the effect of others. To date no studies have isolated specific reflection strategies to examine their unique effects, let alone examine the potential interplay between them. Thus, we currently have a very limited understanding of the “building blocks” of effective reflection interventions (Rosseel & Anseel, 2017).

A second limitation of the current literature on reflection is that very few studies have examined how individuals will spontaneously engage in reflection in the course of their day-to-day work and what factors predict such behavior (for exceptions, see Maurer, Leheta, & Conklin, 2017; Ong, Ashford, & Bindl, 2014). This means that, apart from structured

interventions, we currently do not have a clear understanding how to develop an organizational environment that will encourage employees to reflect or design jobs that promote effective reflection. This is particularly unfortunate as research suggests that one key aspect of job design is crucial in determining the effectiveness of reflection, namely the availability of feedback (Anseel et al., 2009). This finding is consistent with educational research showing that discovery learning strategies without feedback are less effective than instructions involving feedback (Mayer, 2004). The rationale here is that when reflecting on the reasons for successes or failures without feedback, learners might try out a variety of different strategies and/or may adopt the wrong strategies for improving performance. For instance, when students were asked to reflect on their problem-solving answers in a multimedia game without receiving feedback, reflection did not affect learning (Moreno & Mayer, 2005). This means that for naturally occurring reflection to have positive effects, employees will need to obtain a minimal amount of feedback. Usable feedback is a scarce resource in organizations, because managers and colleagues often refrain from providing feedback to avoid defensive and hostile reactions (the MUM effect, Tesser & Rosen, 1970). Therefore, to fully benefit from reflection, employees need to engage in feedback-seeking behavior as a complementary agile learning strategy.

Integrating Reflection and Feedback-Seeking Behavior

In their conceptual model of learning agility, Derue et al. (2012) advanced reflection and feedback-seeking behavior as two key behavioral strategies driving learning agility. However, to date, virtually no studies have looked at the interplay between these two strategies (for an exception, see Sparr, Knipfer, & Willems, in press). This contrasts with our literature review suggesting that, one the one had, investing effort and cognitive resources in reflection may be in vain without feedback. On the other hand, our review also suggests that a lack of reflection might be one of the main culprits of

feedback-seeking behavior not leading to improvement. Thus, to increase our understanding of how reflection and feedback-seeking behavior may serve as agile learning strategies for sustainable careers, we need a better understanding of how they work in concert. In Figure 1, we provide a preliminary research model that may guide future research in this area. On the basis of previous process models of feedback-seeking behavior (Anseel et al., 2015), we propose taking a dynamic look at the interrelationships between feedback seeking and reflection and their outcomes. On the basis of our review, we expect that feedback-seeking behavior will guide reflection by directing cognitive attention to those mental models that are in most need of reconfiguration. Similarly, reflection may provide a deeper level of cognitive processing so that feedback seeking will be more likely to lead to competence development as compared to undirected feedback seeking, which has been shown to also serve other motives. We believe such a strengthened interplay between seeking feedback and reflection may be an antecedent of outcomes central to sustainable careers, such as learning, task performance, adaptation and well-being. These in turn might instigate new episodes of feedback-seeking behavior and reflection. These processes may play out in the short term, for instance, in the context of one feedback episode, but they may also initiate a learning cycle over longer periods of time. As indicated in our model, we further need a better understanding of how individual and organizational factors may affect both reflection, feedback-seeking behavior and their interplay. For instance, preliminary research suggests that the same factors may determine the instrumental motive for feedback-seeking behavior as well as the depth-of-processing in reflection (Anseel et al., 2007; Swann & Schroeder, 1995).

In summary, our literature review indicates that reflection and feedback-seeking behavior show great promise as agile learning strategies for individuals to build

sustainable careers. Both strategies are instrumental in enhancing learning, performance, adaptability, and well-being. However, to fully benefit from their potential, we need to better understand how these two strategies work in concert. To this end, we proposed a research model and call for more research disentangling the interplay between reflection and feedback-seeking behavior.

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The relationship between feedback-seeking behavior and performance has proven to be an intriguing issue for researchers. The current study sheds new light on the equivocal findings by demonstrating that the relationship is stronger for employees with low leader-member exchange.
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FIGURE 1

A DYNAMIC RECIPROCAL MODEL OF REFLECTION AND FEEDBACK-SEEKING BEHAVIOR

